

Family Pomatomidae

2058

Body oblong, moderately compressed, especially belly. Head rather large, more so in young, compressed. Snout conic. Eye moderate, little advanced in head, without adipose lids. Maxillary extends below eye. Premaxillaries protractile. Teeth uniserial in jaws, with canines. Bands of fine teeth on palate and tongue. Nostrils together. Opercle ends in flat point. Preopercle with membranous flap extending over subopercle. Gill membranes free from isthmus. Gill rakers lanceolate. Gills 4, slit behind fourth. Branchiostegals 7. Vertebrae 26, of which 15 or 16 caudal. Scales moderate or small,



2059

rows, narrowly exposed, small, weakly ctenoid. Cheek and opercles scaly. Soft vertical fins densely covered basally with small scales. Lateral line complete, axial, unarmed. Spinous dorsal of 7 or 8 low, weak spines, joined by membrane and depressible in groove. Second dorsal long. ~~Depressible in groove.~~ Anal with 2 very small free spines, sometimes hidden under skin, fin like second dorsal. Caudal lobes broad. Pectoral not quite reaching half way to anal, longer in young. Ventral inserted little behind pectoral origin.

A single species widely distributed in most tropical seas, voracious and highly valued



as food in many places.



2061

Genus Pomatomus Lacépède

Pomatomus Lacépède, Hist. nat.  
Poiss., vol. 4, pp. 5, 436, 1802. (Type  
Pomatomus skib Linnaeus, monotypic.)

Saltatrix Catesby, Nat. Hist. Carolina,  
vol. 2, p. 14, 1771. (Type Perca  
saltatrix Linnaeus, tautotypic.)  
(Inadmissible.)

Lopharis Rafinesque, Car. nov.  
Animal. Sicil., p. 52, 1810. (Type  
Perca lophar Forskål, monotypic.)

Gonenion Rafinesque, Car. nov.  
Animal. Sicil., p. 53, 1810. (Type  
Gonenion serra Rafinesque, monotypic.)

Temnodon Cuvier, Règne Animal,  
vol. 2, p. 346, 1817. (Type  
Cheilodipterus heptacanthus  
Lacépède, monotypic.)



1<sub>m</sub> Elera, Cat. Fauna Filipinas, vol. 1,  
1895, p. 479 (Manila Bay). 1<sub>m</sub> Jordan  
and Snyder, Annot. Zool. Japon., vol.  
3, 1901, p. 84 (Nagasaki). 1<sub>m</sub> Jordan  
and Richardson, Bull. Bur. Fisher.,  
vol. 27, 1907 (1908), p. 260 (Manila). 1<sub>m</sub>  
Seale, Philippine Journ. Sci., vol. 5, no. 4,  
Oct. 1910, p. 279 (Sandakan, Borneo). 1<sub>m</sub>  
Kendall and Goldsborough, Mem. Mus.  
Comp. Zool., vol. 26, 1911, p. 293 (Suva, Fiji).  
1<sub>m</sub> Snyder, Proc. U. S. Nat. Mus., vol. 42,  
1912, p. 416 (Kagoshima). 1<sub>m</sub> Hase, Jena.  
Zeitschr. Nat., vol. 51, 1914, p. 529, fig. 2  
(dentition), fig. 3 (spinous dorsal)  
(Tami, Kaiser Wilhelm Land, New Guinea).  
1<sub>m</sub> Seale, Philippine Journ. Sci., vol. 9,  
no. 1, 1914, p. 68 (Hong Kong). 1<sub>m</sub> Herr and  
Montalban, Philippine Journ. Sci., vol. 36,  
no. 1, May 1928, p. 103, pl. 3, fig. 1 (Vigan,  
Iamortia and Rabon, Alaminos, Iba, Orani,



Sypterus Eichwald, Zool.

Special., vol. 3, p. 69, 1831.

(Type Sypterus pallasii Eichwald,  
monotypic.)

Chromis (not Cuvier) (Garden)

Gray, Cat. Fish Gronow, p. 149,  
1854. (Type Chromis epicurorum

Gray, monotypic.)

Cheilodipterus (not Lacepede)

Bleeker, Nat. Verh. Holland.

Maatsch. Haarlem, ser. 3, vol. 2,

(Rev. Apogon), p. 74, 1874. (Type

Cheilodipterus hexacanthus Lacepede,

orthotypic.)

Spharactodon Rochebrune, Bull.

Soc. Philom., Paris, ser. 7, vol. 4, p.

162, 1880. (Type Spharactodon

naulna Rochebrune, monotypic.)



1313

Upeneus sulphureus Evermann and  
Seale, Bull. Bur. Fisher., vol. 26,  
1906 (1907), p. 88 (San Fabian). (Error.)  
Upeneoides sulphureus Bleeker, Verhandl.  
Batavia. Genootsch. (Percoid.), vol. 22,  
1849, p. 63 (Java).  $\frac{1}{m}$  Günther, Cat.  
Fishes Brit. Mus., vol. 1, 1859, p. 398  
(Red Sea, Amboyna, China, New Hebrides).  
 $\frac{1}{m}$  Day, Fishes of India, pt. 1, 1875, p. 120,  
pl. 30, fig. 3.  $\frac{1}{m}$  Karoli, Termesek. Füzetek,  
Budapest, vol. 5, 1881, p. 156 (Yokohama).  
 $\frac{1}{m}$  Steindachner and Döderlein,  
Denkschr. Akad. Wiss. Wien, math.-  
naturwiss. Classe, vol. 48, 1883, p. 23  
(Nagasaki).  $\frac{1}{m}$  Meyer, An. Soc. Españ.  
Hist. Nat. Madrid, vol. 14, 1885, p. 16  
(Manado, Celebes).  $\frac{1}{m}$  Day, Fauna British  
India, Fishes, vol. 2, 1889, p. 25.  $\frac{1}{m}$   
Sauvage, Hist. Nat. Madagascar, Poiss.,  
1891, p. 217, pl. 27, fig. 1 (type; Angier).



Body robust, edge of belly rounded. Head deep. Snout long as wide. Eye rounded.

Maxillary slightly curved, not slipping below preorbital.

Supplemental maxillary present.

Mouth oblique, lower jaw projecting. Each jaw with row of uniserial, slender, compressed, pointed, large, strong, wide set teeth. Triangular patch of villiform teeth on vomer, band on each palatine, also patch on base of tongue. Nostrils close before eye. Cheek much longer than opercle. Lower gill rakers 11 to 13. Pseudobranchiae large. Air bladder simple, with thin walls. Pyloric appendages very numerous. Scales in longitudinal



Lateral line present, complete.  
Dorsals 2, spines connected by  
membrane. Anal like soft  
dorsal and opposite. Caudal  
forked. Pectoral short. Ventral  
thoracic.



Pomatomus saltator (Linnaeus)

Perca saltatrix Linnaeus, Syst.  
Nat., ed. 10, pt. 1, p. 293, 1758  
(type locality, "America" [=  
Charleston, South Carolina]).

Gasterosteus saltatrix Linnaeus,  
Syst. Nat., ed. 10, pt. 1, p. 491, 1766  
(Carolina). — Forster, Cat. Animals  
North America, p. 22, 1771 (on  
Catesby). — Bonnaterre, Tabl. Ichth.,  
p. 137, pl. 57, fig. 224, 1788 (Carolina).  
— Gmelin, Syst. Nat. Linnaeus, pt. 1,  
p. 1326, 1789 (copied). — Walbaum,  
Artedi Pisc., vol. 3, p. 449, 1792  
(copied).



<sup>29</sup>  
Cuvier Upeneus sulphureus Cuvier

Upeneus sulphureus Cuvier, Hist. Nat.  
Pois., vol. 3, 1829, p. 45. Anger, Straits  
of Sunda. <sup>1</sup><sub>m</sub> Bleeker, Verhandel. Akad.  
Wetensch. Amsterdam, vol. 15, no. 3,  
1875, p. 4 (Java, Madura, Bali,  
Sumatra, Singapore, Bintang, Banka,  
Celebes, Sumbawa, Buru, Amboina,  
Waigiu); Atlas Ichth. Ind. Néerland,  
vol. 9, 1877, pl. (3) 393, fig. 4. <sup>1</sup><sub>m</sub>  
Jordan and Seale, Bull. Bur. Fisher.,  
vol. 26, 1906 (1907), p. 26 (Cavite). <sup>1</sup><sub>m</sub>

Snyder, Proc. U. S. Nat.  
Mus., vol. 32, 1907, p. 99 (Samoa). <sup>1</sup><sub>m</sub>  
<sup>Seale</sup> Weber, Siboga Exped., Fische vol. 57,  
1913, p. 293 (Lombok, Bima, Macassar).  
<sup>1</sup><sub>m</sub> Beaufort, Bijdr. Dierk. Amsterdam, vol. 19,  
1913, p. 123 (Kairatu, west Ceram).



Temnodon saltator Cuvier, Hist. Nat.  
 Poiss., vol. 9, p. 225, pl. 266, 1833  
 (Brazil; Bahia; Montevideo; Amboina;  
 Port Jackson; Alexandria). —  
Valenciennes, Règne Animal, Cuvier,  
 ed. ill., Poiss., pl. 56, fig., 1839. —  
Bleeker, Nat. Tijds. Ned. Indie, vol.  
 21, pp. 50, 53, 64, 1860 (Cape of Good  
 Hope). — Günther, Cat. Fish. Brit.  
 Mus., vol. 2, p. 479, 1860 (Cape Seas;  
 Moluccas; Australia; Port Jackson;  
 Swan River). — Castelnau, Mem.  
 Poiss. Afr. australe, p. 41, 1861 (Cape  
 of Good Hope; Natal). — Pappe,  
 Synop. Fish. Cape of Good Hope, ed. 2,  
 p. 17, 1866 (Table Bay). — Guichenot,  
 Mém. Soc. Sci. Nat. Cherbourg, ser. 2,  
 vol. 2, p. 146, 1866 (Madagascar).  
 — Macleay, Proc. Linn. Soc. New  
 South Wales, vol. 5, pt. 4, p. 544, 1881  
 (Port Jackson; Australian coasts).



— McCoy, Prodr. Zool. Victoria, vol. 2,  
dec. 19, p. 30, pl. 183, July 1889.

— Vauvage, Hist. Madagascar, Poiss.,  
p. 518, 1891 (reference).

— Gilchrist, Cat. Fish. South Africa,  
p. 126, 1902 (reference).

234  
014  
948



Depth  $3\frac{1}{3}$ ; head  $3\frac{1}{3}$ . Snout  $2\frac{1}{5}$   
in head; eye  $3\frac{3}{5}$ ,  $1\frac{2}{3}$  in snout;  
maxillary reaches  $\frac{3}{4}$  to eye, expansion  
 $1\frac{4}{5}$  in eye, length 3 in head;  
barbel  $1\frac{1}{3}$ ; interorbital very low;  
preopercle edge entire.

Scales 38 in lateral line to caudal  
base and 5 more on latter; 3 above,  
6 below, 15 forward on predorsal  
till over nostril, 3 rows on cheeks.

D. VII - I, 8, I, first spine  $1\frac{2}{5}$  in  
head, first branched ray 2; A. I, 6, I,  
spine 3, first branched ray 2; caudal  
1, deeply forked; least depth of  
caudal peduncle 3; pectoral  $1\frac{1}{3}$ ;  
ventral  $1\frac{2}{5}$ .

Red, with broad yellow lateral  
band and yellow line at head.  
Fins deep red, without spots.  
Length 267 mm. (Günther.)



Cheilodipterus saltator Bleeker,  
Ned. Tijds. Dierk., vol. 1, p. 345,  
1863 (Madagascar); vol. 2, p. 285,  
1865 (reference).



~~1008~~  
17990 U.S.N.M. Honolulu. Dr. J.H.  
Streets. Length 193 to 198 mm. 2 examples.

26822 U.S.N.M. Johnston Island.  
Length 270 mm. Type of Upeneus velifer.

55077 U.S.N.M. Hawaiian Islands.  
Albatross Collection (No. 2721). Length 210 mm.

55460 U.S.N.M. Honolulu. Bureau  
of Fisheries (Nos. 03951, 04001). Length 168  
to 170 mm. 2 examples.

55510 U.S.N.M. Hawaiian Islands.  
Bureau of Fisheries. Length 143 to 190 mm. 8 examples.

84091 U.S.N.M. Hawaiian Islands.  
Length 164 mm.



Pomatomus saltator Fowler, Proc.  
Acad. Nat. Sci. Philadelphia, vol.  
85, 1934, p. 453 (Durban; St. Lucia  
Lake, North Zululand; Natal).

Regan, Ann. Natal. Mus., 1908, p. 244  
(Bird Island). —

— Waite, Records South Austral. Mus.,  
vol. 2, p. 103, fig. 159, 1921.

— Barnard, Ann. South African Mus.,  
vol. 21, pt. 2, p. 509, pl. 22, fig. 3, Oct.  
1927 (Port Nolloth, Table Bay, False  
Bay, Natal coast, Delagoa Bay).



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Upeneoides roseus Castelnau is somewhat suggestive of the present species. Its incomplete description follows:

Depth  $4\frac{1}{2}$  without caudal; head  $3\frac{1}{3}$ . Eye  $3\frac{1}{3}$  in head; barbels long; teeth large and numerous on vomer and palatines. D. VII - I, 8, height less than  $\frac{2}{3}$  body depth; A. 7; caudal strongly forked. Body pink, with upper parts purple. Belly silvery. Head olive above. On each side broad gold band. Fins immaculate. Dorsal, caudal and pectoral olive yellow. Ventral flesh color. Length 138 mm.



2070

Pomatomus saltatrix Fowler, Proc.

U. S. Nat. Mus., vol. 56, p. 291, 1919

(Cape of Good Hope; Massachusetts;  
New Jersey; Rio Janeiro).

Gilchrist and Thompson, Ann.  
Durban Mus., vol. 1, no. 4, p. 338,  
1917 (reference).

— Jordan and Gilbert, Bull. U. S. Nat. Mus.,  
no. 105, p. 914, 1882. — Berg, Anal. Mus.

von Berg,  
Zool. Buenos Aires, vol. 4, p. 33, 1895. —

Jordan and Evermann, Bull. U. S. Nat.  
Mus., no. 47, pt. 1, p. 946, 1896.

— Deffin, Cat. Peces Chile, p. 55, 1901.

— Van Bende, Fisher. Marine Biol. Surv.  
South Africa, Rep. no. 3, no. 1, p. 25,  
1922 (1924) (off South Africa, in 28  
fathoms).



22713. Balayan Bay, Luzon.  
January 19, 1908. Length 119 mm.

11 examples. D. 5134. Balukbaluk  
Island (N.) S.  $59^{\circ}$  W., 6.25 miles ( $6^{\circ}$   
 $44'45''$  N.,  $121^{\circ}48'E$ ). February 7, 1908.  
Length 48 to 70 mm.

20406. Batangas market. June 7,  
1908. Length 70 mm.

2 examples. Langley Point, Cavite,  
Luzon. March 23, 1908. Length 64 mm.

1 example. Manila. December 6, 1907.  
Length 97 mm.

1 example. Nasugbu, Luzon. January 16,  
1908. Length 65 mm.

1 example. Noto River, tide water,  
Lagonoy Gulf, Luzon. June 18, 1909.  
Length 77 mm.

12 examples. D. 5152. Pajumajan Island  
(W.), S.  $2^{\circ}$  W., 2 miles ( $5^{\circ}22'55''$  N.,  
 $120^{\circ}15'45''$  E), Tawi Tawi Group.



Perca lophar Forskål, Descript.  
Animal., pp. XI, 35, 1775 (type  
 locality, Constantinople). —  
Bonnaterre, Tabl. Ichth., p. 127, 1788  
 (copied). — Gmelin, Syst. Nat. Linnaeus,  
 pt. 1, p. 1311, 1789 (copied). — Walbaum,  
Artedi Pisc., vol. 3, p. 332, 1792  
 (copied).

Anthias lophar Vuckow, Naturges.,  
 vol. 4, p. 556, 1799 (copied).

Eleotris lophar Schneider, Syst.  
Ichth. Bloch, p. 67, 1801 (copied).

Centropomus lophar Lacépède,  
Hist. Nat. Poiss., vol. 4, pp. 249, 257,  
 1802 (copied).



13 to 16 rays; scales large, about 25;  
caudal forked. Archamia

c.<sup>2</sup> Epigoninae. Body elongated to very slender; eye very large; preopercle without submarginal ridge, broadly rounded; scales small, caducous; fins all small, low; caudal emarginate or forked; deep water forms. Hymnodus

b.<sup>2</sup> Cheilodipterinae. Jaws with canines; lateral line complete; scales large; anal short, rays 8; caudal emarginate.

h.<sup>1</sup> Preopercle entire; body elongate; dorsal spines 6. Cheilodipterus

h.<sup>2</sup> Preopercle more or less serrate; dorsal spines usually more than 6.

i.<sup>1</sup> Dorsal spines 7; scales cycloid.

Synagrops

i.<sup>2</sup> Dorsal spines 6 or 7.

j.<sup>1</sup> A silvery lateral gland inferior.

Siphamia



Cheilodipterus heptacanthus Lacépède,  
Hist. nat. Poiss., vol. 3, pp. <sup>538, 543,</sup> ~~542~~, pl.

21, fig. 3, 1802 (type locality, "le grand Océan  
équatorial"). — Bailliant, Bull. Soc. Philomat.

Paris, ser. 6, vol. 12, p. 29, 1875 (1877).

Ternstroem heptacanthus Duoy and Hamard, Voy. Uranie, Zool., p. 400, pl. 61, fig. 2, 1824.

Pomatomus shibeae Lacépède, Hist. nat.

Poiss., vol. 4, pp. <sup>435,</sup> 436, pl. 8, fig. 3, 1802

(type locality, Carolina).

Perca shibeae (Bosc) Lacépède, Hist. nat.

Poiss., vol. 4, p. 436, 1802 (name in synonymy).

Lopharus mediterraneus Rafinesque,

Ind. Ittiol. Sicil., p. 1810 17, 1810

(type locality, Sicily).

Gonenion serra Rafinesque, Ind.

Ittiol. Sicil., p. 53, 1810 (type

locality, Sicily); Carrat. Inov.

Animal. Sicil., p. 53, pl. 10, fig. 3, 1810

(type locality, Sicily).

Post position; synonymy.



pale interspaces. Soft dorsal similar.  
Usually upper caudal lobe with  
5 or 6 oblique slightly darker lines,  
lower lobe uniform.

India, East Indies, Philippines,  
Indo-China, China, Queensland.



Scomber plumbeus Mitchill, Trans.  
Lit. Philos. Soc. New York, vol. 1,  
p. 424, pl. 4, fig. 1, 1815 (type locality, <sup>New York</sup>).

Chromis epicurorum Gray, Cat.

Fish Gronow, p. 149, 1854 (type locality,  
Carolina).

Gemnodon conidens Castelnau, Mém. Poiss. Afrique  
 australe, p. 41, 1861 (type locality, Algoa Bay).

Sparactodon nainal Rochebrune,

Bull. Soc. Philom. Paris, ser. 7,  
vol. 4, p. 162, 1880.

Pomatomus pedica Whitley,

Austral. Zoologist, vol. 6, pt. 4,

p. 316, February 13, 1931 (on

Gemnodon saltator (not Linnaeus)

McCoy).



with  $1\frac{1}{2}$  to 15 transverse series of basal elements; circuli very fine.

D. VIII - I, 8, I, third spine  <sup>$1\frac{1}{2}$  to</sup>  $1\frac{2}{3}$  in head, first ray  $2\frac{1}{3}$  to  $2\frac{1}{2}$ ; A. IV, 6, I, second spine  $3\frac{1}{5}$  to  $3\frac{3}{5}$ , first ray  $2\frac{1}{5}$  to  $2\frac{1}{3}$ ; caudal 1, deeply forked and lobes sharply pointed; least depth of caudal peduncle  $2\frac{7}{8}$  to 3; pectoral  $1\frac{1}{3}$  to  $1\frac{2}{5}$ ; ventral  $1\frac{2}{5}$  to  $1\frac{3}{4}$ .

Fawn brown generally, paler below with silvery sheen over lower sides of head and abdomen. Iris golden. Sulphur yellow band wide as pupil from eye to caudal base ending above lateral line at base of upper caudal lobe medially. Barpls pale. Fins all pale brownish. Spinous dorsal with 4 deep mauve horizontal bands, each much narrower than



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Depth  $3\frac{1}{2}$  to 4; head  $3\frac{1}{8}$  to  $3\frac{2}{5}$ , width  $2\frac{1}{8}$  to  $2\frac{2}{5}$ . Snout  $3\frac{2}{3}$  to  $3\frac{4}{5}$  in head from snout tip; eye  $4\frac{1}{5}$  to 6,  $1\frac{1}{5}$  to 2 in snout, 1 to  $1\frac{3}{4}$  in interorbital; maxillary reaches hind eye edge, length  $2\frac{1}{8}$  to  $2\frac{1}{4}$  in head from snout tip; interorbital  $3\frac{3}{5}$  to  $4\frac{1}{8}$ , convex. Gill rakers 3 or 4 + 11 to 13, lanceolate,  $1\frac{3}{4}$  in eye.

Scales 95 to 100 in lateral line to caudal base and 6 or 7 more on latter; 6 to 10 above, 17 to 20 below, 20 to 28 predorsal.

D. VII or VIII — I, 25 to 28, third spine  $4\frac{1}{2}$  to  $6\frac{1}{4}$  in total head length, first branched ray 2 to  $2\frac{4}{5}$ ; A.

I or 2 — I, 26 to 28, first branched ray  $2\frac{1}{4}$  to 3; caudal 1 to  $1\frac{1}{5}$ , forked; least depth of caudal peduncle  $3\frac{1}{2}$  to  $4\frac{1}{2}$ ; pectoral  $1\frac{3}{5}$  to 2; ventral  $2\frac{2}{5}$  to 3.



Dark greenish or gray blue above, sides and below silvery white. Iris silvery white. Dusky blotch close before pectoral at base. Fins olivaceous, lower ones paler or whitish. Young brilliant silvery-white on sides and below.

South Africa, Natal, Zululand, Delagoa Bay, Madagascar, East Indies, New South Wales, Queensland, Western Australia, Victoria, Tasmania, Chili. Also widely distributed in the Atlantic.



Whitley separates the  
Australian form as Pomatomus  
pedica as it "has ctenoid  
scales, seven or eight dorsal  
spines and a row of conical  
teeth inside the outer row of  
large ones in the upper jaw"  
+ + "specimens in Melbourne"  
+ + "were deeper in body than  
the American fish and not so  
blue."



U. S. N. M., No. 29004.

Australian Museum. Length 370 mm? Depth  $3\frac{3}{5}$ . Scales not ctenoid. Dorsal spines 7.

U. S. N. M., No. 28689.

Australian Museum. Length 354 mm. Depth  $3\frac{3}{4}$ . Scales not ctenoid. Dorsal spines 8.